

Work Order ID 131554

131554

Page 1

Tuesday, April 14, 2015 1:03:14 PM

Item ID: D119-796-241 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: AFT Crosstube Installation without Step (no hardware)
 Start Date: 4/14/2015 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 4/14/2015 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: MLS Date: 15-04-14 Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D119-796-241	F								

120 0.00
 120 Packaging
 Packaging Memo 0.00
 Packaging
 130 0.00
 130 BENDING MACHINE - CROSSTUBES
 CNC Bend 2 Memo 0.00
 CNC Alpha 160 Bender Bend tube as per Dwg D119-796-241 using CNC bender program

140 0.00
 140 QC15- Crosstube Dimensional Check
 QC Memo 0.00
 Quality Control

JW 15-04-20

1 38
 9-89
 APR 20 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : _____																									

WorkOrder ID 131554

Tuesday, April 14, 2015 1:03:14 PM

131554

Page 2

Item ID: D119-796-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: AFT Crosstube Installation without Step (no hardware)

Stop ***NS2***

Start Date: 4/14/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/14/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

145

0.00

145

Crosstubes

Memo

0.00

Crosstubes

1- CUT TUBE AT HEIGHT ON FAI SHEET

2- VERIFY HEIGHT: 24.97BY QC15 LEVEL INSPECTOR: EB

3- DEBURR CUT SURFACE

15-04-21JW15-04-21

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



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Tuesday, April 14, 2015 1:03:14 PM

131554

Page 6

Item ID: D119-796-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: AFT Crosstube Installation without Step (no hardware)

Stop ***NS2***Start Date: 4/14/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/14/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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230

0.00

230

SprayPaint

SprayPaint

Memo

0.00

Spray Painting

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

1-Prime inside and outside crosstube as per QSI 005 4.2

DO NOT APPLY PAINT TO CUFFS AS PER NOTE #2

PRIMER batch: 131846Start time: 4:00Finish time: 4:061 CM120430

240

QC14- Inspect Spray Paint

0.00

240

QC

Memo

0.00

Quality Control

**DAS
05
9-09**15-05-27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
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Item Name: AFT Crosstube Installation without Step (no hardware)

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Stop ***NR2***

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242

0.00

242

Crosstubes

Memo

0.00

Crosstubes

1- Abrade mating surfaces of support and crosstube with Scotch Brite 7447 red and remove residue with Dupont 4105s

2- Install D5152-043 with proseal 890 on concave surface, 0.100" MIN thick as per dwg USE DT10112(Identified right and left) TO LOCATE
****LEAVE CLAMPING PRESSURE ON FOR MIN 48HRS****

Proseal Batch:

132226

EXP:

12/15

PROSEAL CURE TIME 72 HOURS:

Start:

15105130

Finish:

15106102

3- Install radius block as per dwg

4- Mask underside of crosstube as shown as per dwg prior to painting.

244

QC5- Inspect part completeness to step on W/O

0.00

244

QC

Memo

0.00

Quality Control

DAS

38

9-89

JUN 02 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 131554

Tuesday, April 14, 2015 1:03:14 PM

131554

Page 10

Item ID: D119-796-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: AFT Crosstube Installation without Step (no hardware)

Start Date: 4/14/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/14/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
255		0.00							
255						1			DAS 41 9-89
Crosstubes	Memo	0.00							15-6-1
Crosstubes	1- Install Damper Supports and Contact Pad , clamp with the proper position as per dwg with Proseal 890 per dwg D119-796-241 and QSI 015								
	*****INSTALL WET*****								
	A/R Proseal 890	Batch: 132226							
		EXP: 12/15							
		PROSEAL CURE TIME 72 HOURS:							
		Start: 15-6-1							
		Finish: 15-6-4							
	Torque all clamps to 80-100 IN-LBS.								
260	QC5- Inspect part completeness to step on W/O	0.00							
260						1			DAS 38 9-89
QC	Memo	0.00							JUN 02 2015
Quality Control	***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED AS PER DWG.***								

P.T.O.

DQA:

Date: 15/06/30



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 15/06/23

Work Order update only ☐

Work Order: 131554		DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. D119-796-241		Rework ☒		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐
NCR No. 15-5126		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
		Use-as-is ☐		Thermoforming ☐	Finishing ☒	Rec/Store/Packaging ☐	Other ☐
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐	
Date: 15-06-16		Step #: 235		QTY Effective: ①		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition				12 15/6/16	
customer request to have center support removed (un bonded)		- Remove DS122-1 B126745 center support - Remove scotch weld, strip primer/paint center support only at location of center support - Touch up abdine - Re-prime, clear + paint as per drawing + DS1005 Primer B131846 Paint B132412 clear + paint U/A/D - install DS122-1 B126745 on crosstube (not too tight). Install without DP460 with clamps only lightly torqued.				Completed By ER 15-06-16	
						Lead hand / Supervisor Approval Verification	
						DAS 9 9-9-85 15-06-16	
						QC / QA Coordinator Approval	
						9 9-89 15-06-16	
Root Cause		FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐						
Misidentified ☐	Past Due ☐	OTHER: customer request					

Work Order ID 131554

Tuesday, April 14, 2015 1:03:14 PM

131554

Page 11

Item ID: D119-796-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: AFT Crosstube Installation without Step (no hardware)

Start Date: 4/14/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/14/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
290	Packaging	0.00							
290									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D119-796-241								
300	QC21- Final Inspection - Work Order Release	0.00							
300									
QC	Memo	0.00							
Quality Control									

JUN 17 2015

15-6-17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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OTHER : _____																																																																				

Picklist Print

Tuesday, April 14, 2015 1:03:18 PM

Page 1

Work Order ID: 131554

131554

Parent Item: D119-796-241

D119-796-241

Parent Item Name: AFT Crosstube Installation without Step (no hardware)

Start Date: 4/14/2015

Required Date: 4/14/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 14.09.03 NEW ISSUE DD VERF:JLM IPP
REV:B 14.10.15 AS PER REV.B DD VERF:JLM IPP REV:C
14.11.19 AS PER REV.C DD VERF:JLM IPP REV:D 14.12.12
AS PER REV.pd1 DD VERF:JLM IPP REV:E 15.02.11 AS PER
REV F JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D119-796-241TRN

Manufactured No

131323

Each 1.0000

1

D119-796-241TRN

**

1

1

BL 15/04/16

Crosstube Turning Detail

Location

Loc Qty

Loc Code

LG014

1

128174

1

D2873-043

Manufactured No

Each 58.0000

4

D2873-043

**

CN 15-04-3d

Nut Plate Assembly

Location

Loc Qty

Loc Code

LG

40

128814

40

LG052

18

127801

2

129732

16

D5122-1

Manufactured No

Each 12.0000

1

D5122-1

**

DAS
41
9-89

15-5-30

Center Support, Upper

Location

Loc Qty

Loc Code

LG054

11

126745

9

127131

2

prelim

1

122440

1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																												
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Picklist Print

Tuesday, April 14, 2015 1:03:18 PM

Page 3

Work Order ID: 131554

131554

Parent Item: D119-796-241

D119-796-241

Parent Item Name: AFT Crosstube Installation without Step (no hardware)

Start Date: 4/14/2015

Required Date: 4/14/2015

Start Qty: 1.00

Required Qty: 1.00

D5136-1 Manufactured No

Each 15.0000 1

D5136-1

Contact Pad, LH

DAS

41

9-89

15-5-31

Location

Loc Qty

Loc Code

LG051

15

126752

9

127138

6

D5136-2 Manufactured No

Each 16.0000 1

D5136-2

Contact Pad, RH

DAS

41

9-89

15-5-31

Location

Loc Qty

Loc Code

LG055

16

126753

10

127139

6

D5152-043 Manufactured No

Each 10.0000 2

D5152-043

Aft Post Mount Assembly

CA 1506.22

Location

Loc Qty

Loc Code

LG054

8

129453

2

131415

6

LG055

2

129811

2

CR3212-4-07 Purchased No

Each 171.0000 16

CR3212-4-07

CHERRY RIVET

CA 15-04.30

Location

Loc Qty

Loc Code

ST320

171

m131317

36

m131800

135

Tuesday, April 14, 2015 1:03:18 PM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

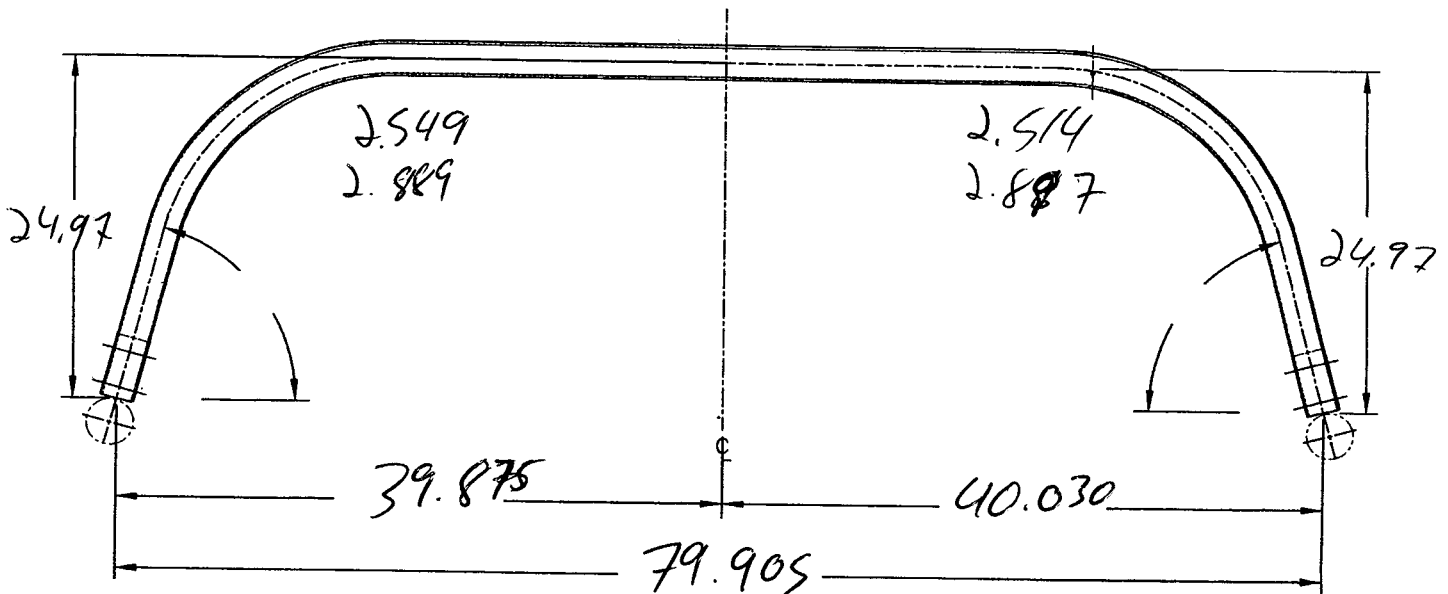
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mis-labeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DART AEROSPACE LTD		Work Order: 13554
Description:		Part Number: D119-78-241
Inspection Dwg: D119-78-241 Rev: F		Page 1 of 1

Required Dimension	Min	Max
Height	24.84	25.10
1/2 Span	39.81	40.07
Angle	53°	57°
Total Span	79.62	80.14
Bending Passes	8	
Crushing		8.5%



	Side A	Side B
Bending Passes	13	13
Crushing	6.3%	7.1%
Comments		

QC15 Inspection	DAS
Date	38
	9-89
	APR 20 2015

Rev	Date	Change	Revised by	Approved
A		New Issue		
B	06.09.19	Reformat; QC level revised	KJ/JM	
C	07.02.06	Reformat	KJ/JM	
D	12.02.15	Added bending passes and crushing	KJ	
E	12.03.07	Revised comments table	KJ	

DQA: _____ Date: _____



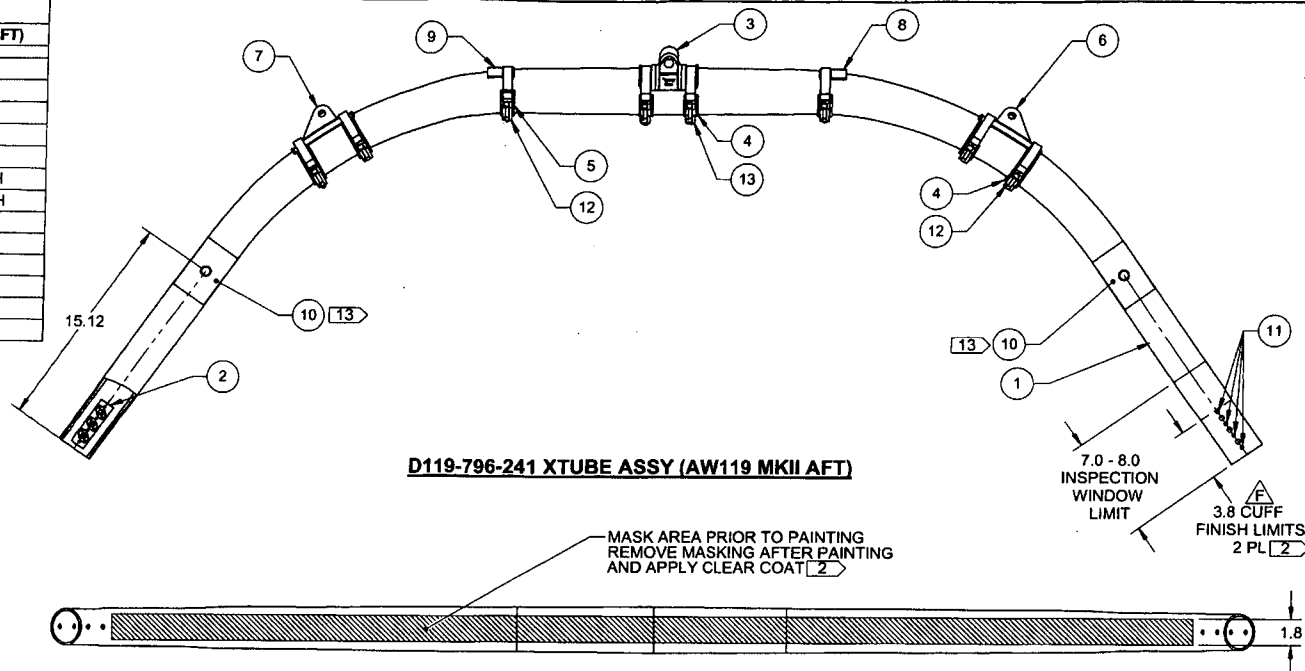
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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ITEM	QTY	P/N	DESCRIPTION
	X	D119-796-241	XTUBE ASSY (AW119 MKII AFT)
1	1	D119-796-241BND	CROSSTUBE, AFT
2	4	D2873-043	RADIUS BLOCK
3	1	D5122-1	CENTER SUPPORT
4	6	D5123-1	CLAMP CUSHION
5	2	D5123-5	CLAMP CUSHION
6	1	D5134-041	DAMPER SUPPORT ASSY, LH
7	1	D5134-042	DAMPER SUPPORT ASSY, RH
8	1	D5136-1	CONTACT PAD, LH
9	1	D5136-2	CONTACT PAD, RH
10	2	D5152-043	AFT POST MOUNT ASSY
11	16	CR3212-4-07	RIVET, BLIND CSK
12	6	MS21920-25	CLAMP
13	2	MS21920-28	CLAMP



D119-796-241 XTUBE ASSY (AW119 MKII AFT)

MASK AREA PRIOR TO PAINTING
REMOVE MASKING AFTER PAINTING
AND APPLY CLEAR COAT [2]

NOTES:

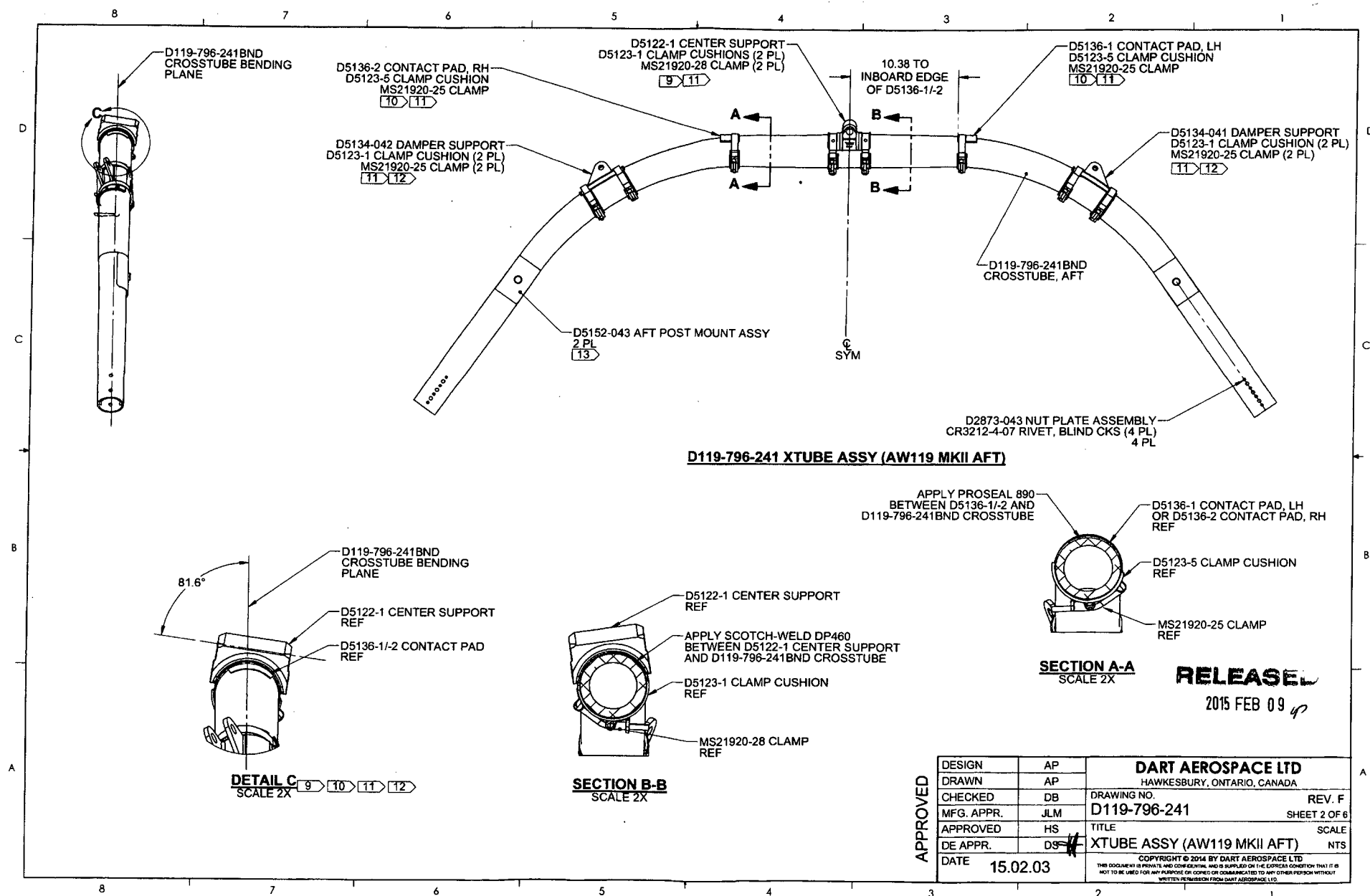
- 1) MATERIAL: N/A
- 2) FINISH: MASK UNDERSIDE OF CROSSTUBE AS SHOWN (B3-1, HATCHED AREA)
PAINT OUTSIDE PER DART QSI 005 4.2
REMOVE MASKING AND APPLY MATTE CLEAR COAT
DO NOT APPLY FINISH (PAINT OR CLEAR COAT) TO CUFFS IN LOCATION SHOWN, MASK PRIOR TO FINISHING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY USING PART NUMBER "D119-796-241" AND BATCH NUMBER
ON INSIDE OF CUFF PER QSI 044 6.4
- 7) WEIGHT: 26.26 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE.
THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM DEFECTS SUCH AS
SCRATCHES, NICKS OR DENTS. DEFECTS UP TO 0.005 MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) INSTALL D5122-1 CENTER SUPPORT AT 8.4" OFFSET FROM THE CROSSTUBE BENDING PLANE USING A 0.04" TO 0.07" THICK LAYER OF SCOTCH-WELD
DP460 PER QSI 015. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER DP460 HAS CURED FOR 24 HOURS.
- 10) AFTER FINISHING, ABRASE MATING SURFACES OF D5136-1/2 AND SURFACE OF CROSSTUBE WITH SCOTCH BRITE 7447 RED
AND REMOVE RESIDUE WITH DUPONT 4105S WASH 'N' WIPE DEGREASER. APPLY A 0.100" MIN THK LAYER OF PROSEAL 890 ON THE
INSIDE CONCAVE SURFACE OF THE D5136-1/2 CONTACT PADS AND INSTALL AT AN 8.4" OFFSET FROM THE CROSSTUBE
BENDING PLANE. INSTALL MS21920-25 CLAMPS AND D5123-5 CLAMP CUSHIONS WHILE WET.
PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.
- 11) TORQUE MS21920 CLAMPS 80 - 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN
SAFETY. THE NUT HAS NOT BOTTOMED-OUT AFTER TORQUING AND THE NUT IS FACING AFT.
- 12) AFTER FINISHING, POSITION AND INSTALL D5134-041/042 DAMPER SUPPORTS USING JIG DT10085. ABRASE MATING SURFACES OF THE
D5134-041/042 DAMPER SUPPORTS AND CROSSTUBE WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH 'N' WIPE
DEGREASER. APPLY A 0.100" MIN THK LAYER OF PROSEAL 890 ON THE INSIDE CONCAVE SURFACE OF THE
D5134-041/042. INSTALL MS21920-25 CLAMPS AND D5123-1 CLAMP CUSHIONS WHILE WET. PRIOR TO PACKAGING,
RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.
- 13) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5152-043 WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE
WITH DUPONT 4105S WASH 'N' WIPE DEGREASER. INSTALL D5152-043 WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.100" MIN THK
LOCATE D5152-043 USING TOOL DT10112.

RELEASED

2015 FEB 09

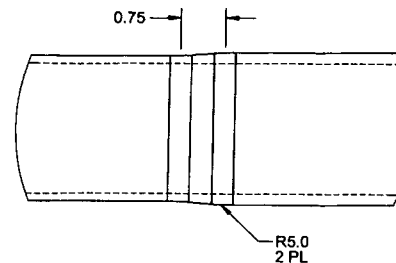
REV 15-326

F	REMOVED PRIMER/PAINT ON CUFFS, 2.516 WAS 2.500 (C8-5)	AP	15.02.03
F	D5152-043 WAS D5150-3, SCOTCH BRITE 7447 RED WAS 180 GRIT SANDPAPER	DB	15.01.15
D	ADD D5150-3 STEP POST (2X), MOVED INSPECTION WINDOW DETAIL TO SHT 1, MODIFIED NOTES ON SH 1 & 3	DB	14.11.25
C	CR3212-4-07 RIVETS WAS CR3212-4-05 RIVETS, RADIUS BLOCK WAS NUT PLATE ASSEMBLY (BOM), REMOVED 7.5 DEG CUFF HOLE OFFSET (A1-3), REDUCED CUFF DIA TO 2.500 (C8-5), ADD INSPECTION WINDOW	AP	14.10.23
B	ORIENTATION OF D5122-1 CENTER SUPPORT WAS CORRECTED, D5123-5 ADDED UNDER D5136-1/2 CONTACT PADS, ADDED D2873-043 NUT PLATE ASSY & CR3212-4-05 RIVETS, ADDED REFERENCE TO SKIDTUBES FOR LOCATING CUFF HOLES, RE-ORGANIZED NOTES, REMOVED REDUNDANT INFORMATION.	AP	14.09.08
A	NEW ISSUE	AP	14.08.07
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO.	REV. F
MFG. APPR.	JLM	D119-796-241	SHEET 1 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII AFT)	NTS
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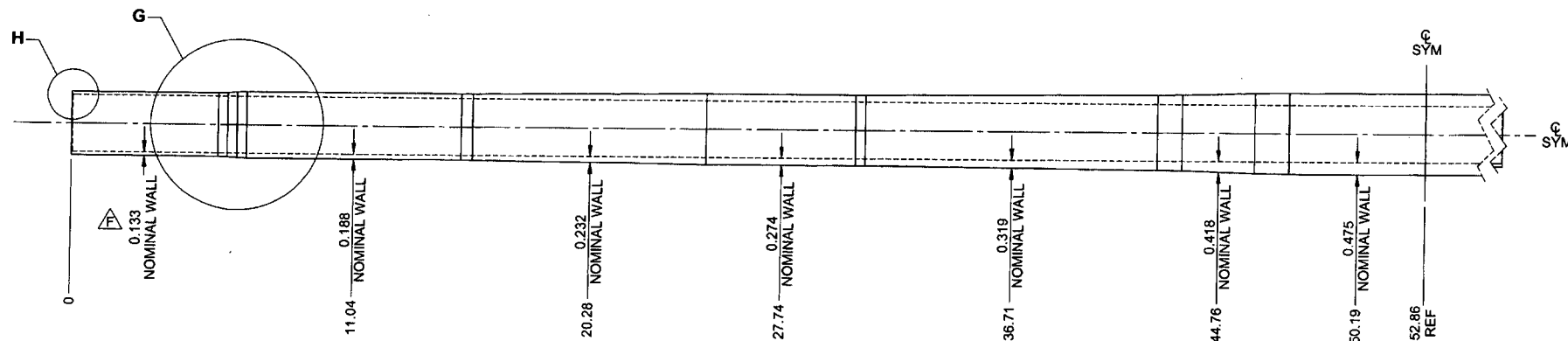


CHAMFER AS
REQUIRED FOR
TOOLING

DETAIL H
SCALE 4X



DETAIL G
SCALE 2X



D119-796-241TRN CROSSTUBE, AFT
AUXILIARY VIEW: NOMINAL WALL THICKNESS

RELEASED

2015 FEB 09 *q*

APPROVED

DESIGN	AP	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DB	DRAWING NO.	REV. F
MFG. APPR.	JLM	D119-796-241	SHEET 6 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII AFT)	NTS
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28279**

Purchase Order Date 4/27/2015

PO Print Date 4/29/2015

Page Number 5 of 6

Order From :
SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905-678-5636

Ship To Contact

Ship To Phone

Ship Via: Delivered

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

11	131553	D119-796-241 CROSSTUBE	4/29/2015	1.00	\$110.00	\$110.00
			Yes			
			4/29/2015			

LIQUID PENETRANT INSPECTION AS PER QSI 038 OR
LPI AS PER ASTM 1417 LEVEL 2

Line Total: \$110.00

12	131554	D119-796-241 CROSSTUBE	4/29/2015	1.00 ✓	\$110.00	\$110.00
			Yes			
			4/29/2015			

LIQUID PENETRANT INSPECTION AS PER QSI 038 OR
LPI AS PER ASTM 1417 LEVEL 2

Line Total: \$110.00

13	131555	D119-796-241 CROSSTUBE	4/29/2015	1.00	\$110.00	\$110.00
			Yes			
			4/29/2015			

LIQUID PENETRANT INSPECTION AS PER QSI 038 OR
LPI AS PER ASTM 1417 LEVEL 2

Note:

4/29/2015



skyservice Work Order Traveler

Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO24373	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: 28279
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT INSPECTION (LIQUID PENETRANT) ON 12 CROSSTUBES

ITEM ID: D119-796-241 AFT CROSSTUBE INSTALLATION WITHOUT STEP (NO HARDWARE)

1 - WORK ORDER ID#: 131550

2 - WORK ORDER ID#: 131551

3 - WORK ORDER ID#: 131552

4 - WORK ORDER ID#: 131553

5 - WORK ORDER ID#: 131554

6 - WORK ORDER ID#: 131555

15-04-29

ITEM ID: D119-796-141 FWD CROSSTUBE, STD W/O PEG STEPS (MKII)

7 - WORK ORDER ID#: 131077

8 - WORK ORDER ID#: 131543

9 - WORK ORDER ID#: 131544

10 - WORK ORDER ID#: 131547

11 - WORK ORDER ID#: 131548

12 - WORK ORDER ID#: 131549

Action Taken:		Date:	Initial/Stamp:		
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-12) AS PER ASTM1417M-13		APR 28 2015			
NO CRACK FOUND					
Pen: ZL-56 BATCH# 09H094 EXP. DATE: DEC 2017, DEV: SKD-S2 EXP. DATE: OCT2017 CLEANER: SKC-S EXP. DATE: APR 2018					
Description	Location P/N	Qty	Batch	S/N Off	S/N On
		DAS			
		38			
		9-89			
		APR 29 2015			

I certify that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:		ACA/SCA Stamp	Date:
Name:			APR 28 2015